(Remov. AOC For Ovrly

29973

6/91

IN THE MATTER OF: Lee's Lane Superfund Site, Jefferson County, Kentucky LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT and JEFFERSON COUNTY, KENTUCKY Respondents	ADMINISTRATIVE ORDER ON CONSENT U. S. EPA Docket No. 91-32-C

I. JURISDICTION

This Administrative Order on Consent ("Consent Order") is issued pursuant to the authority vested in the President of the United States by Sections 104(a) and 122(a) of the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. § 9601 et seq., as amended by the Superfund Amendments and Reauthorization Act of 1986, Pub. L. No. 99-499, 42 U.S.C. §§9604(a) and 9622(a), (hereinafter "CERCLA" or the "Act") and the authority vested in the Administrator of the United States Environmental Protection Agency ("EPA") by Section 122(h) of the Act, 42 U.S.C. §9622(h). The authority vested in the President has been delegated to the Administrator of the United States Environmental Protection Agency ("EPA") by Executive Order 12580, 52 Fed. Reg. 2923 (January 29, 1987) and further delegated to the Regional Administrators of the EPA by Delegation No. 14-14-C

(September 13, 1987). The authority vested in the Administrator of the EPA by Section 122(h) of CERCLA has been delegated to the Regional Administrators of the EPA by EPA Delegation No. 14-14-D (September 13, 1987).

This Administrative Order on Consent is issued to the Louisville and Jefferson County Metropolitan Sewer District and to Jefferson County, Kentucky ("Respondents"). Respondents agree to undertake all actions required by the terms and conditions of this Consent Order. Respondents further consent to and will not contest EPA's jurisdiction to issue this Consent Order or to implement or enforce its terms.

II. DEFINITIONS

Unless noted to the contrary, the terms of this Consent Order shall have the same meaning as terms defined in CERCLA. Whenever the following terms are used in this Consent Order and the Attachments hereto, the following definitions specified in this Section shall apply:

A. "Attachment I" shall mean the "Operations and Maintenance Plan for Post-Removal Site Control at the Lee's Lane Landfill Site, Louisville, Kentucky" attached hereto and incorporated herein.

B. "CERCLA" or the "Act" means the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended, 42 U.S.C. §§ 9601 et seq.

C. "EPA" means the United States Environmental Protection Agency.

D. "Future Response Costs" means any and all response costs which may be incurred by EPA after the effective date of this Consent Order in connection with the Site.

E. "National Contingency Plan" or "NCP" means the National Contingency Plan promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, including any amendments thereto.

F. "Parties" means the United States Environmental Protection Agency and Respondents.

G. "Past Response Costs" means all response costs incurred by EPA in connection with the Site prior to the effective date of this Consent Order.

H. "Response Costs" means any costs incurred by EPA pursuant to CERCLA.

I. "Respondents" means the Louisville and Jefferson County Metropolitan Sewer District ("MSD"), and its successors and assigns, and Jefferson County, Kentucky, and its successors and assigns.

J. "Site" means the "facility" as that term is defined at Section 101(9) of CERCLA, 42 U.S.C. §9601(9), encompassing the property commonly known as Lee's Lane Landfill, where hazardous substances have been disposed of and otherwise have come to be located. The Site is located approximately 4.4 miles southwest of Louisville, Kentucky, in Jefferson County, and is adjacent to the Ohio River.

K. "State" means the Commonwealth of Kentucky.

III. STATEMENT OF FACTS

A. Hazardous substances within the definition of Section 101(14) of CERCLA, 42 U.S.C. §9601(14) have been or are threatened to be released into the environment at or from the Site.

B. As a result of the release or threatened release of hazardous substances into the environment, EPA has undertaken response action at the Site under Section 104 of CERCLA, 42 U.S.C. §9604, and has determined that additional response action at the Site, as set forth in Attachment I, is necessary in order to protect human health and the environment.

C. EPA has incurred response costs and will continue to incur response costs in connection with the Site.

IV. DETERMINATIONS

Based upon the administrative record for this Site, EPA has determined that:

A. The Site as described in Section II of this Consent Order is a "facility" as that term is defined in Section 101(9) of CERCLA, 42 U.S.C. §9601(9).

B. Respondents are "persons" as that term is defined in Section 101(21) of CERCLA, 42 U.S.C. §9601(21).

C. MSD is a person who "arranged for disposal or treatment . . . of hazardous substances" at the Site within the meaning of Section 107(a)(3) of CERCLA, 42 U.S.C. §9607(a)(3), and is a "potentially responsible party" within the meaning of Section

122(a) of CERCLA, 42 U.S.C. §9622(a). Pursuant to Kentucky law, Jefferson County must approve MSD's rates, rentals, and charges.

D. The past, present, or future migration of hazardous substances from the Site constitutes an actual or threatened "release" as that term is defined in Section 101(22) of CERCLA, 42 U.S.C. §101(22).

E. Settlement with Respondents and implementation of the response action required pursuant to this Consent Order are in the public interest.

V. ORDER

Based upon the administrative record for this Site and the Findings of Fact and Determinations set forth above, and in consideration of the promises and covenants set forth herein, it is hereby AGREED TO AND ORDERED:

PERFORMANCE OF THE WORK AND GENERAL PROVISIONS

1. Except as expressly provided herein, Respondents agree to perform all monitoring activities and operation and maintenance work set forth more specifically in Attachment I, entitled "Operations and Maintenance Plan for Post-Removal Site Control at the Lee's Lane Landfill Site, Louisville, Kentucky" incorporated herein. Respondents' obligations to perform the operation and maintenance work listed below shall be subject to a present value monetary cap of $250,000 (two hundred and fifty thousand dollars):

a. Repair or replacement of riprap;

b. Repair or regrading of cracking, slumping, or other signs and effects of slope movement and installation

of equipment for measurement of slope movement;

c. Installation of piezometers or excavation for the purpose of cleaning, repairing, or replacing all or any portions of the gas collection or water wells, adding to or extending existing manifold systems and wells, or installing new wells;

d. Repair or replacement of the blower house, weather data collection stations, and gates and barriers;

e. Repair of access road and on-site roadways;

f. Repair or replacement of the clay cap;

g. Replacement of blowers and pumps;

h. Repair or replacement of any equipment damaged by vandalism;

i. Repair of any conditions exposing hazardous substances, or drums and other similar containers which may contain hazardous substances, directly to the elements;

j. Additional sampling (in excess of quarterly sampling) to verify unusual analytical results as required pursuant to the last sentence of Section 4.4.B (Groundwater Monitoring Frequency) of Attachment I; and

k. Repairs or other activities undertaken to eliminate or reduce ponding of surface waters.

With respect to items a through k enumerated above, Respondents' obligations under this Consent Order shall cease when MSD demonstrates that it has expended the full amount of the monetary cap performing work on any or all of these items, or upon the termination date of this Consent Order as specified in Paragraph 40, whichever occurs first. In the event that MSD expends the full amount of the monetary cap on items a through k prior to the termination date of the Consent Order, nothing herein shall affect Respondents' obligations to continue to perform all other monitoring activities and operation and maintenance work set

forth in Attachment I, with the exception of items a through k, until the termination of the Consent Order as specified in Paragraph 40. MSD shall demonstrate that the full amount of the monetary cap has been expended by supplying EPA with invoices, cancelled checks, or other appropriate documentation of charges, costs, and payments, and documentation evidencing that such charges, costs, and payments were expended in performance of one or more of items a through k, along with calculations discounting such expenditures to 1991 dollars. MSD shall use its best efforts to control charges, costs, and payments to be expended in performance of items a through k.

2. All activities undertaken by Respondents pursuant to this Consent Order shall be conducted in accordance with the requirements of all applicable or relevant and appropriate local, state and federal laws and regulations. No permits shall be required for work conducted entirely on-site.

3. Respondents shall include in all contracts or subcontracts entered into for activities required under this Consent Order, provisions stating that such contractors or subcontractors, including their agents and employees, shall perform all activities required by such contracts or subcontracts in compliance with all applicable laws and regulations.

4. This Consent Order is not, nor shall it act as, nor is it intended by the Parties to be, a permit issued pursuant to any federal or state statute or regulation.

5. Within thirty days of the effective date of this Consent Order, Respondents shall record a notice of this Order with the Registry of Deeds, Jefferson County, Commonwealth of Kentucky.

ACCESS

6. To the extent that the Site or any other area where work is to be performed is owned or controlled by persons other than Respondents, Respondents shall use best efforts to assist EPA in obtaining access for Respondents, as well as for EPA and authorized representatives or agents of EPA, for the purposes of conducting any activity authorized by or related to this Consent Order, including, but not limited to:

a. Monitoring the work described herein or any other activities taking place on the Site;

b. Verifying any data or information submitted to EPA;

c. Conducting investigations relating to any contamination which may exist at or near the Site;

d. Obtaining samples;

e. Assessing the need for or planning and implementing additional response actions at or near the Site; and

f. Inspecting and copying records, operating logs, contracts, or other documents required to assess compliance with this Consent Order.

7. Notwithstanding any provision of this Consent Order, EPA retains all of its access authorities and rights under CERCLA, RCRA and any other applicable federal statute or regulation.

MSD COORDINATOR

8. Within twenty (20) calendar days of the effective date of this Consent Order, Respondents shall notify EPA and the State in writing of the name, address and telephone number of MSD's designated coordinator for purposes of conducting the work described in Attachment I. If the identity of the coordinator initially designated is to be changed, the identity of the successor shall be given to EPA and the State within 5 working days before the change.

QUALITY ASSURANCE, SAMPLING

9. Respondents shall use quality assurance, quality control, and chain of custody procedures specified in Attachment I. Respondents shall assure that EPA and State personnel or authorized representatives are allowed access to any laboratory utilized by Respondents in implementing this Consent Order.

10. At the request of EPA or the State, Respondents shall allow split or duplicate samples to be taken by EPA or the State and/or their authorized representatives of any samples collected by Respondents pursuant to the implementation of this Consent Order. Respondents shall notify EPA in the manner provided in Paragraph 38 and the State not less than fourteen (14) days in advance of any sample collection activity. In addition, EPA and the State shall have the right to take any additional samples which EPA or the State deems necessary.

REPORTING REQUIREMENTS

11. Respondents shall submit to EPA and the State all results of sampling and tests and all other data received by Respondents during the course of the work described in Attachment I. These results shall be submitted to EPA no later than five (5) working days after receipt of the results or data by Respondents. Progress reports shall be submitted to EPA and the State as provided in Attachment I.

12. Upon the occurrence of any event during performance of the work described in Attachment I which, pursuant to Section 103 of CERCLA, requires reporting to the National Response Center, Respondents shall promptly orally notify the Emergency Response Section, Region IV, United States Environmental Protection Agency, in addition to the reporting required by Section 103.

APPROVAL OF CONTRACTORS

13. In the event that Respondents seek to retain a contractor to perform any portion of the sampling, analyses, or monitoring required pursuant to this Consent Order or Attachment I, Respondents shall notify EPA, in writing, of the name, title, and qualifications of such contractor and any subcontractor proposed to be used in carrying out such work. Selection of any such contractor or subcontractor shall be subject to approval by EPA. After receiving notice of the proposed contractor or subcontractor, EPA shall notify Respondents in writing within 21 calendar days of the approval or disapproval of such contractor

or subcontractor. If EPA disapproves of the selection of any contractor or subcontractor, Respondents shall submit a list of contractors and/or subcontractors to EPA within 21 days of receipt of the disapproval of the contractor or subcontractor previously selected. EPA shall, within 21 calendar days of receipt of the list, provide written notice of the names of the contractors or subcontractors that EPA approves. Respondents may at its election select any one from that list. After selection of the contractor and/or subcontractor, Respondents shall notify EPA of the name of the contractor and/or subcontractor within 14 calendar days.

INDEMNIFICATION AND INSURANCE

14. Respondents shall indemnify and save and hold harmless EPA and its officials, agents, employees, contractors, or representatives from any and all claims or causes of action arising from or relating to any acts or omissions of Respondents, its officers, employees, agents, contractors, subcontractors, and any persons acting on its behalf or under its control in the performance of any response actions relating to the Site or arising from any failure by Respondents to perform fully or complete the requirements of this Consent Order. EPA shall not be held out as a party to any contract entered into by or on behalf of Respondents in carrying out activities pursuant to this Consent Order. Neither Respondents nor any such contractor shall be considered an agent of EPA.

15. Respondents shall indemnify and hold EPA harmless with respect to any claims for damages or reimbursement from EPA arising from or on account of any contract, agreement, or arrangement between Respondents and any person for performance of work on or relating to the Site.

16. Prior to commencing any on-site work, Respondents shall secure and maintain for the duration of this Consent Order, comprehensive general liability and automobile insurance pursuant to the self-insurance program evidenced by the certificates attached as Attachment II. In addition, for the duration of this Consent Order, Respondents shall satisfy, or shall ensure that their contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of workmen's compensation insurance for all persons performing work on behalf of Respondents in furtherance of this Consent Order.

FORCE MAJEURE

17. "Force Majeure" is defined for the purposes of this Consent Order as an event arising from causes entirely beyond the control of Respondents and of any entity controlled by Respondents including their contractors and subcontractors, which delays or prevents the performance of any obligation under this Consent Order and which could not have been overcome by due diligence. "Force Majeure" does not include unanticipated or increased costs, changed financial circumstances, or failure to obtain necessary permits unless all reasonable and timely efforts have been made to obtain such permits.

18. When circumstances occur which indicate that a delay may occur or that the completion of any portion of the work or access to the Site may be prevented, whether or not caused by a Force Majeure event, Respondents shall notify orally the Director of the Waste Management Division, EPA Region IV and the State of the circumstances within forty-eight hours after they first become aware of them. Within ten (10) working days after Respondents first become aware of such circumstances, Respondents shall supply to EPA and the State in writing an explanation of the cause(s) of any actual or expected delay or noncompliance, the anticipated duration of any delay, the measures taken and to be taken by Respondents to prevent or minimize the delay or correct the noncompliance, and the timetable for implementation of such measures. Failure to give timely oral and written notice to EPA or the State in accordance with this Paragraph shall constitute a waiver of Respondents' right to assert Force Majeure in a dispute resolution proceeding pursuant to Paragraphs 21 through 22 herein.

19. In proceedings on any dispute regarding a delay in performance or other noncompliance, Respondents shall have the burden of proving that the delay or noncompliance is or was caused by a Force Majeure event.

DISPUTE RESOLUTION

20. Any dispute which arises under or with respect to this Consent Order shall in the first instance be the subject of informal negotiations between the Parties. The period for such

informal negotiations shall not exceed sixty (60) days from the time the dispute arises, except when extended by agreement between the Parties. The period for informal negotiations shall end when EPA provides its position on the disputed matter to the Respondents in writing and notifies Respondents that the informal negotiation period has ended.

21. In the event that the Parties cannot resolve a dispute by informal negotiations under the preceding paragraph, then the position advanced by EPA shall be considered binding unless, within ten working (10) days after the end of the informal negotiation period, the Respondents invoke the dispute resolution procedures herein by serving on EPA a written statement of its position on the matter in dispute ("Statement of Position"), including factual data, analysis, or opinions supporting that position and supporting documentation relied upon. EPA may serve a Statement of Position, including supporting documentation, on Respondents no later than thirty (30) days after receipt of Respondents' Statement of Position. In the event that these periods for exchange of Statements of Position may delay the work, they may be shortened upon and in accordance with notice by EPA.

22. Upon review of the Statements of Position, and any other materials submitted pursuant to the request of the Director of the Waste Management Division, EPA Region IV (the "Director"), the Director shall issue a final decision resolving the dispute. This decision shall not be subject to judicial review.

23. The dispute resolution procedures set forth in Paragraphs 20 through 22 herein shall be the exclusive mechanism to resolve disputes arising under or with respect to this Consent Order and shall apply to all provisions of this Consent Order unless otherwise expressly provided. Invocation of these procedures shall not of itself extend or postpone any obligation of Respondents under this Consent Order, provided that payment of stipulated penalties with respect to the disputed matter shall be stayed pending resolution of the dispute. Notwithstanding the stay of payment, stipulated penalties shall accrue from the date of demand as specified in Paragraph 25. In the event that the Respondents do not prevail on the disputed issue, stipulated penalties shall be assessed and paid as provided in Paragraphs 24 through 26 herein.

STIPULATED PENALTIES AND ASSUMPTION OF WORK BY EPA

24. If Respondents fail to comply with any requirement of this Consent Order, including failure to perform any portion of the work set forth in Attachment I in a timely or appropriate manner, Respondents shall pay to EPA stipulated penalties in the following amounts for each day of each and every violation of said requirements:

Period of Delay	Penalty Per Violation Per Day
1st through 14th day	$ 3,000
15th through 30th day	$ 6,000
Beyond 30 days	$10,000

25. Stipulated penalties shall begin to accrue on the day that EPA makes written demand for payment of stipulated penalties

upon Respondents, specifying the violation or violations for which stipulated penalties are due, and shall continue to accrue through the final day of correction of the violation. Separate penalties shall accrue for each separate violation of this Consent Order.

26. All penalties due to EPA shall be payable within thirty (30) days of receipt by Respondents of EPA's written demand for payment of stipulated penalties. Interest shall begin to accrue on the unpaid balance at the end of the thirty-day period, at the rate established pursuant to Section 107(a) of CERCLA, 42 U.S.C. § 9607(a). Notwithstanding the foregoing, no violation shall be deemed to have occurred and Respondents shall not be required to make payment if, within twenty (20) days of receipt of EPA's written demand, Respondents fully correct the violations specified by EPA in the written demand.

27. In the event EPA determines that Respondents have failed to implement the work required pursuant to this Consent Order or any portion thereof in a timely manner, the EPA or its designate may perform such portions of the work as EPA deems necessary. Prior to such performance, the EPA will provide the MSD Project Coordinator with 30 days advance notice of intent to perform a portion or all of the work. In the event that EPA or its designate assumes the performance of a portion or all of the work, any liability of Respondents for stipulated penalties arising from the acts or omissions that prompted EPA's performance of the work shall run only until ten (10) days after

commencement of the work, or a portion thereof, by the EPA or its designate. In the event that EPA has not made written demand for payment of such stipulated penalties before providing notice of EPA's intent to perform the work, such stipulated penalties shall be paid 30 days after the EPA provides notice of intent to perform a portion or all of the work. If EPA or its designate performs any portion of the work because of Respondents' failure to comply with its obligations under this Order, Respondents shall reimburse EPA for the costs of doing such work within 60 days of receipt of demand for payment of such costs.

28. Any payments due to EPA shall be paid by certified check made payable to "EPA Hazardous Substance Superfund" and shall be mailed to EPA-Region IV, Attention: Superfund Accounting, P.O. Box 100142, Atlanta, Georgia, 30384.

29. The stipulated penalties set forth above shall be in addition to any other remedies or sanctions which may be available to EPA by reason of Respondents' failure to comply with the requirements of this Consent Order. Nothing herein shall be construed as a waiver of EPA's right to seek penalties under Section 122(l) of CERCLA, provided that if EPA elects to proceed under Section 122(l) of CERCLA, it shall not seek stipulated penalties in addition to statutory penalties.

EFFECT OF SETTLEMENT

30. Respondents' agreement to and execution of this Consent Order shall, upon the effective date specified in Paragraph 39

hereto, constitute full satisfaction of EPA's claim against MSD for Past Response Costs.

31. Subject to the reservations of rights in Paragraph 32, EPA covenants not to sue Respondents in any civil or administrative proceeding for performance of the monitoring activities and operation and maintenance work required pursuant to this Consent Order. This covenant not to sue is conditioned upon satisfactory performance of said monitoring activities and operation and maintenance work by Respondents and shall take effect upon satisfactory completion of all such work by Respondents. This covenant not to sue extends only to Respondents and their officers and employees and does not extend to any other person.

32. EPA reserves, and this Consent Order is without prejudice to, all rights against Respondents with respect to all matters other than those expressly specified in Paragraph 30 and the covenant not to sue set forth in Paragraph 31, including but not limited to:

(1) claims based on a failure by Respondents to meet a requirement of this Consent Order;

(2) claims for reimbursement of Future Response Costs;

(3) claims for injunctive relief for the performance of response actions other than the response actions required under this Consent Order;

(4) claims for damages for injury to, destruction of, or loss of natural resources;

(5) any matter as to which EPA is owed indemnification under Paragraphs 14 and 15 herein; and

(6) any criminal liability.

33. Notwithstanding any other provision of this Consent Order, EPA retains all authority and reserves all rights to take any and all response actions authorized by law.

CONTRIBUTION PROTECTION

34. Subject to the reservations of rights in Paragraph 32 and upon the effective date of this Consent Order specified in Paragraph 39, EPA agrees that by entering into this Consent Order, MSD will have resolved its liability to EPA for those matters set forth in Paragraph 30 pursuant to Sections 113(f) and 122(h) of CERCLA, and shall not be liable for claims for contribution for those matters. Further, subject to the reservations of rights in Paragraph 32, EPA agrees that by entering into and carrying out the terms of this Consent Order, MSD will have resolved its liability to EPA for those matters set forth in the covenant not to sue in Paragraph 31, pursuant to Section 113(f) of CERCLA, and shall not be liable for claims for contribution for those matters.

COVENANT BY RESPONDENTS

35. Respondents hereby covenant not to sue EPA or its representatives for any claims related to or arising from this Consent Order or the work required pursuant hereto, including any direct or indirect claim for reimbursement from the Hazardous

Substance Superfund established pursuant to Chapter 98 of the Internal Revenue Code, 26 U.S.C. § 9507.

COOPERATION AND ACCESS TO INFORMATION

36. Respondents shall provide to EPA all documents and information within their control or within the control of their contractors or agents relating to activities at the Site or to the implementation of this Consent Order, including sampling, analysis, chain of custody records, logs, receipts, reports, correspondence, or other documents or information related to activities at the Site. Respondents agree to cooperate and assist EPA in the prosecution of any actions relating to the Site against all persons or entities who are not parties to this Consent Order. Respondents' obligations of cooperation and assistance include, but are not limited to, naming fact witnesses with knowledge relating to the Site and producing those witnesses under Respondents' control for interviews, depositions, and trial; waiving the subpoena requirements for the depositions and trial testimony of such witnesses; producing documents requested; and promptly responding to requests for information regarding those matters specified in Section 104(e)(2) of CERCLA, 42 U.S.C. §9604(e)(2). The benefit of said agreement by Respondents shall extend only to EPA and not to any other person. Nothing in this Paragraph shall be construed to limit or otherwise affect the exercise of EPA's prosecutorial discretion or any of EPA's authorities under Section 104(e) of CERCLA, 42 U.S.C. §9604(e). Further, nothing in this Paragraph shall be construed to alter

the scope of the covenants not to sue and reservations of rights set forth in Paragraphs 31 through 33 of this Consent Order.

RETENTION OF RECORDS

37. Until six (6) years after the termination of this Consent Order, Respondents shall preserve and retain all records and documents now in their possession or control that relate in any manner to the Site. After this document retention period, Respondents shall notify EPA at least ninety (90) calendar days prior to the destruction of any such records or documents, and, upon request by the EPA, Respondents shall relinquish custody of the records or documents to EPA.

NOTICES AND SUBMISSIONS

38. Whenever, under the terms of this Consent Order, written notice is required to be given or a report or other document is required to be sent by one party to another, it shall be directed to the individuals and the addresses specified below, unless those individuals or their successors give notice of a change to the other parties in writing. Written notice as specified herein shall constitute complete satisfaction of any written notice requirement of the Consent Order with respect to the parties hereto.

As to EPA:

Derek Matory, Project Manager
United States Environmental Protection Agency
Superfund---North Remedial Branch
345 Courtland St., N.E.
Atlanta, Ga. 30365

As to Respondents:

Executive Director
Louisville and Jefferson County Metropolitan Sewer District
400 S. Sixth Street
Louisville, Ky. 40202

EFFECTIVE AND TERMINATION DATES

39. The effective date of this Consent Order shall be the date upon which EPA issues written notice to the Respondents that the public comment period pursuant to Paragraph 43 of this Consent Order has closed and that comments received, if any, do not require modification of this Consent Order.

40. This Consent Order shall terminate upon notice by EPA to Respondents that the work required pursuant to this Consent Order has been satisfactorily completed. EPA shall make such determination within ninety (90) days of the twenty-ninth annual anniversary of the effective date of this Consent Order. Termination of this Consent Order shall not affect the provisions of Paragraphs 30 and 34 or the covenants not to sue or the reservations of rights set forth in Paragraphs 31 through 33 and 35 above or the provisions relating to cooperation and retention of records set forth in Paragraphs 36 and 37 above.

MODIFICATION

41. No modification shall be made to this Consent Order without written approval of the Parties. No oral modification of this Consent Order shall be effective.

PARTIES BOUND

42. This Consent Order applies to and is binding upon the undersigned Parties, their employees and officers and their successors, assigns, contractors, and agents. Any change in the organization of the Respondents shall in no way alter their responsibility under this Order. Respondents shall provide a copy of this Consent Order to any contractor or subcontractor hired to perform the monitoring or operation and maintenance work required by this Consent Order and shall condition all contracts and subcontracts entered into hereunder upon performance of the work in conformity with the terms of this Consent Order.

PUBLIC COMMENT

43. This Consent Order shall be subject to a thirty-day public comment period in accordance with Section 122(i) of CERCLA, 42 U.S.C. § 9622(i). EPA reserves the right to withdraw or withhold its consent to this Consent Order if the comments received disclose facts or considerations which indicate that the Consent Order is inappropriate, improper, or inadequate. Respondents consent to the entry of this Consent Order without further notice.

ATTORNEY GENERAL APPROVAL

44. The Attorney General or his designee has issued prior written approval of this Consent Order in accordance with Section 122(h)(1) of CERCLA, 42 U.S.C. § 9622(h)(1).

SIGNATORIES

45. Each undersigned representative of a Party to this Consent Order certifies that he or she is fully authorized to enter into the terms and conditions of this Consent Order and to execute and legally bind such Party to this document.

IT IS SO AGREED AND ORDERED:

LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN SEWER DISTRICT

By: _____ 6/11/91

Its: Executive Director [Date]

JEFFERSON COUNTY, KENTUCKY

By: _____ 6/28/91

Its: _____ [Date]

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

By: _____ 7-16-91

Its: Acting Dir. Waste Mgt Div. [Date]

ATTACHMENT I

OPERATION AND MAINTENANCE PLAN

FOR POST-REMOVAL SITE CONTROL AT THE LEE'S LANE LANDFILL SITE

LOUISVILLE, KENTUCKY

TABLE OF CONTENTS

APPENDICES

APPENDIX A	Ebasco Health & Safety Plan (HASP)
APPENDIX B	EPA Environmental Services Division (ESD) Standard Operating Procedures (SOP) (Applicable Sections) and Quality Assurance Manual dated April 1, 1986
APPENDIX C	REM III Field Technical Guidelines (FTGs) (Applicable Sections)
APPENDIX D	EPA Compendium Method TO-14, The Determination of Volatile Organic Compounds (VOCs) in Ambient Air Using Summa (Registered Trademark)-Passivated Canister Sampling and Gas Chromatigraphic Analysis
APPENDIX E	Contract Laboratory Program Statement of Work for Organic Analysis dated April 1989
APPENDIX F	SCS Engineers Gas Collection System Design Report
APPENDIX G	Gas Collection System Evaluation Results and IT Corporation Correspondence
APPENDIX H	Soil and Materials Engineers Field Notes for Installation of Gas and Groundwater Monitoring Wells, October, 1987.
APPENDIX I	Toxic Compound List (TCL)
APPENDIX J	Report of Field Observation
APPENDIX K	Topographic Maps
APPENDIX L	Reporting Checklist

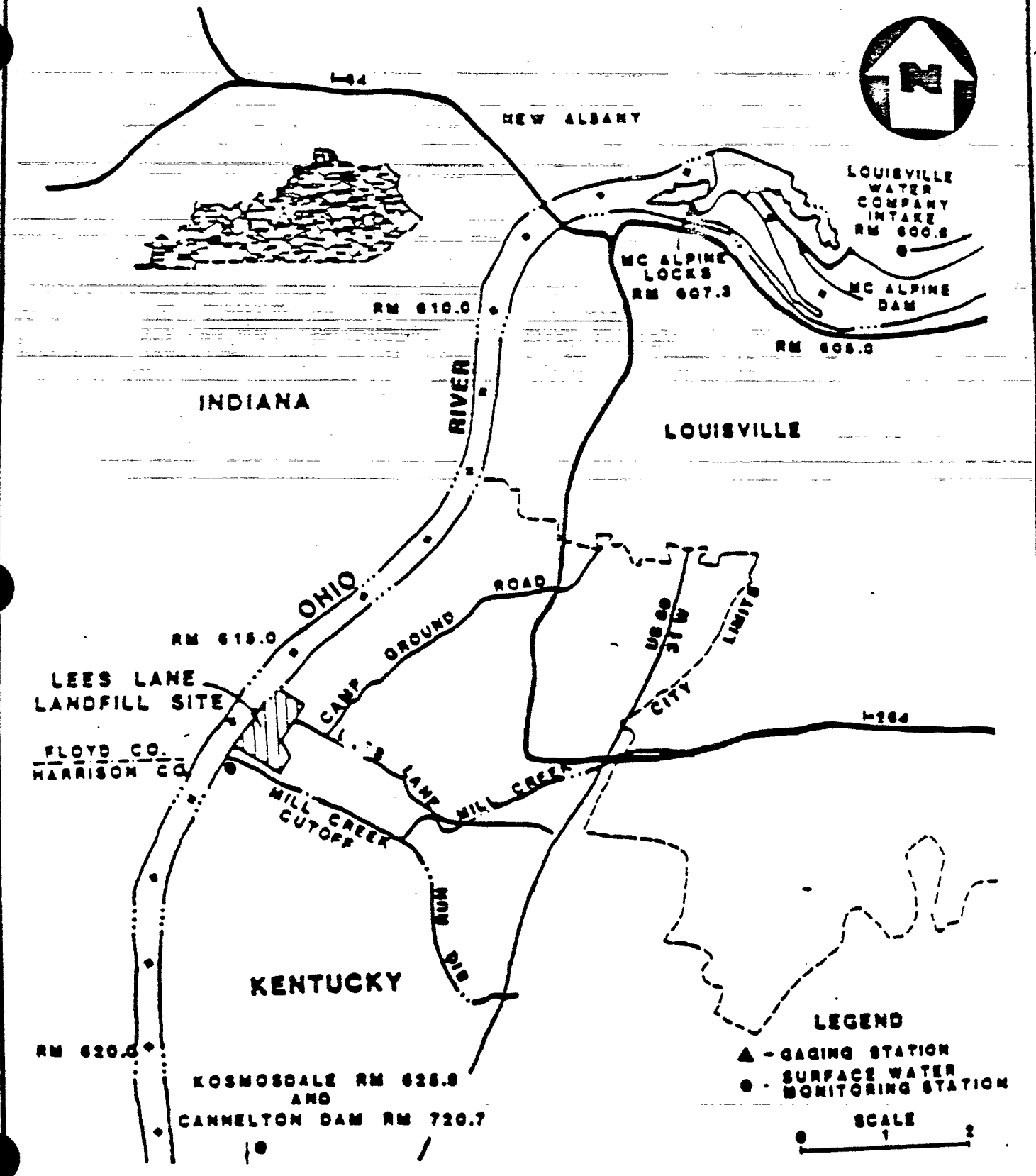
LIST OF FIGURES

LIST OF TABLES

1.0 INTRODUCTION

The 112 acre Lee's Lane Landfill site is located adjacent to the Ohio River in Jefferson County, approximately 4.5 miles southwest of Louisville, Kentucky (see Figures 1.0-1 and 1.0-2). The site consists of three tracts of land designated herein as the northern, central, and southern tracts (see Figure 1.0-2). The site is bordered on the east and south by a flood protection levee. To the northeast is Borden, Inc., a chemical manufacturer, and to the south is the Louisville Gas and Electric Cane Run Plant (a coal-burning electric generating station). Across the levee to the east of the site is Riverside Gardens, a residential development of about 330 homes and 1,100 people. The west side of the site has a terraced area, constructed as a part of the Response Action, which serves as a buffer zone between the landfill and the Ohio River. A gas collection system has been installed along the property boundary southeast of the site between the landfill and Riverside Gardens.

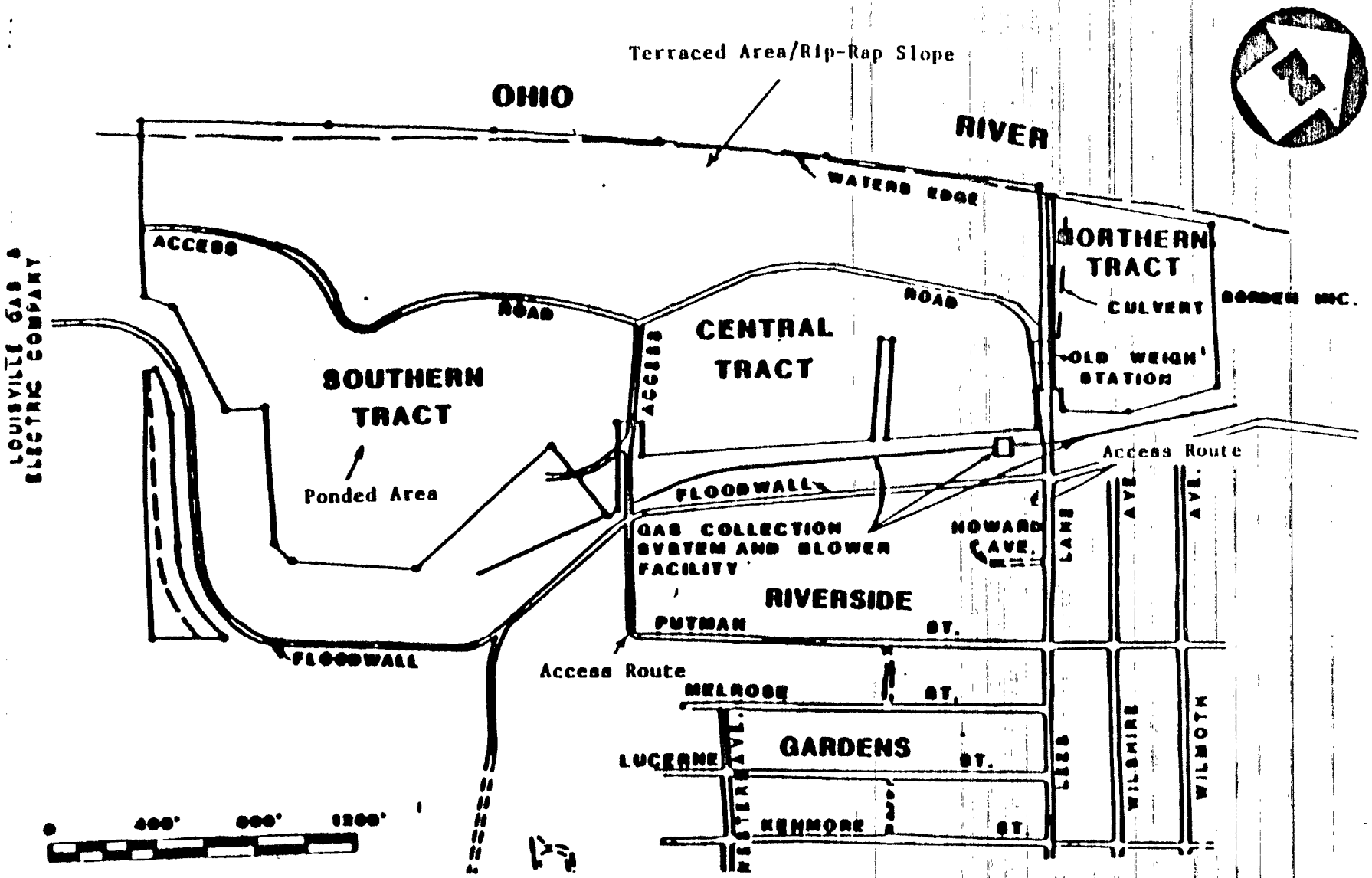
This Operations and Maintenance (O&M) Plan is an outline of the activities to be performed at the Lee's Lane Landfill Site to ensure the effectiveness of the Response Action. Also included in this Plan are descriptions of the technical procedures necessary to complete these tasks.



EBASCO
EBASCO SERVICES INCORPORATED

REGIONAL MAP
LEE'S LANE LANDFILL SITE
JEFFERSON COUNTY, KENTUCKY

FIGURE 1.0-1

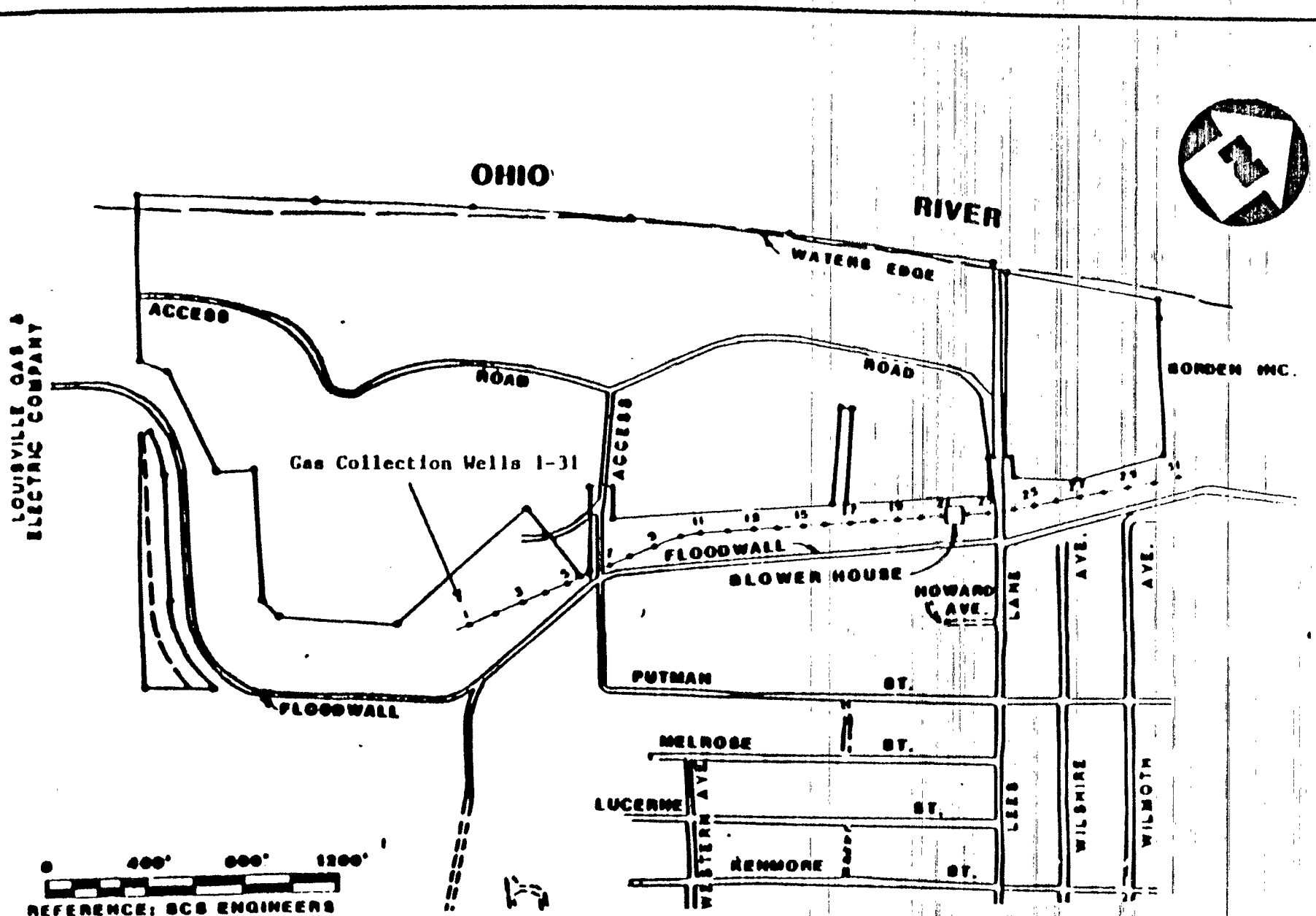


BASCO

CHASCO SERVICES INCORPORATED

SITE LAYOUT
LEE'S LANE LANDFILL SITE
JEFFERSON COUNTY, KENTUCKY

FIGURE 1.0-2



EBASCO

EBASCO SERVICES INCORPORATED

GAS COLLECTION SYSTEM
LEE'S LANE LANDFILL SITE
JEFFERSON COUNTY, KENTUCKY

FIGURE 4.1-1

2.0 LEES LANE LANDFILL SITE, KENTUCKY OPERATIONS AND MAINTENANCE PLAN

Operations and Maintenance (O&M) activities include:

- Site Inspections
  - o Gas collection system
  - o Groundwater monitoring wells
  - o Gas monitoring wells
  - o Institutional controls
  - o Area wide site conditions (i.e., settlement, erosion, unauthorized dumping)
- Air Quality Monitoring
  - o Ambient air sampling
  - o Gas monitoring well sampling
- Gas Collection System Balancing and Maintenance
- Groundwater Quality Monitoring
  - o Groundwater monitoring well sampling
  - o Private well sampling
- River Bank Protection Controls
  - o Rip-rap slope and drainage swales
  - o Surveying
- Landfill Surface and Cap Monitoring and Maintenance
  - o Capped area adjacent to Ohio River and "hot spot" areas
  - o Mowing

These activities are to occur on a quarterly basis unless otherwise specified. A summary of activities and their frequency is given in the following sections. O&M activities shall be conducted for twenty-nine (29) years.

3.0 PERSONAL PROTECTION AND QUALITY ASSURANCE-QUALITY CONTROL PROCEDURES

This section covers general procedures to be followed during the performance of the various O&M activities and includes personal protection, technical references, quality control samples, data quality objectives, sample handling, field instrumentation, decontamination procedures and site waste management. Specific sampling procedures and observation requirements are covered in Section 4.

3.1 Personal Protection

Personal protection procedures substantially equivalent to those outlined in the Ebasco Health & Safety Plan (HASP) and in conformance with applicable regulations included in 29 C.F.R. 1910.120 shall be followed during all sampling operations (see Appendix A). All work shall be performed in personal protection Level D or greater described in Section 8.2 of the HASP. A Health and Safety Plan shall be developed hereto and followed during implementation of this O&M Plan.

3.2 Field Technical Guidance

The 1986 EPA Region IV Environmental Services Division (ESD) Standard Operating Procedures (SOP) and REM III Field Technical Guidelines (FTGs) shall be followed as provided herein. Applicable sections of these documents are included in Appendices B and C.

3.3 Quality Control Samples

Selected Quality Control (QC) samples shall be collected as described below as part of each sampling event.

QC samples shall include duplicate samples (including a duplicate for a matrix spike), trip blanks, preservative blanks, and field (or equipment) blanks. Table 3.1-1 summarizes the number of samples to be collected during each sampling event and the number of duplicates, trip blanks, preservative blanks, and field blanks. Also, shown on this Table are the types and methods of analyses to be performed, and the data quality objective (DQO) level required.

The collection and analyses of the QC samples shall be conducted in accordance with the SOP summarized as follows: One sample of each medium shall be duplicated for QC purposes. Duplicate samples collected shall be analyzed by a qualified laboratory following CLP protocol for all Target Compound List (TCL) parameters (see Appendix I). If field decontamination is conducted, field (or equipment) blanks shall be prepared during the sampling event from the final organics-free water rinse from a single piece of decontaminated equipment. The field blanks shall also be analyzed for TCL compounds. A trip blank for volatile organic analysis only shall be submitted with each shipment of samples. Preservative blanks shall be submitted for appropriate analysis (i.e., metals and cyanide) during each quarterly sampling event.

3.4 Data Quality Objective

Data Quality Objective (DQO) Level IV data are generated by laboratories using the CLP analytical protocol. DQO Level IV data shall be required for all sampling events.

TABLE 3.1-1

SUMMARY OF SAMPLING TASKS AND RELATED QC AND ANALYTICAL REQUIREMENTS
LEE'S LANE LANDFILL SITE
JEFFERSON COUNTY, KENTUCKY

Sampling Task	No. of Samples & Media	No. of Duplicate Samples	No. of Field Blanks	No. of Trip Blanks	No. of Preservative Blanks	Total No. of Samples	Analyses
Existing Monitor Well and Private Well Groundwater Samples	6-water	2*	1	1	1	11*	TCL
Air Quality Monitoring	11-air	1	N/A	N/A	N/A	12	Selected Halogenated and Aromatic Hydrocarbons and Methane

*Includes duplicate for matrix spike provided to laboratory

°CLP protocol shall be followed for all analyses (DQO level IV)

3.5 Sample Identification and Chain of Custody

Each sample collected shall have its own number, which will apply during the entire project. The sample numbers to be used consist of a four-faceted alpha-numeric code, which identify the project, type of sample, the sample location, and the number of samples collected at each location.

The sample codes are:

LL - Lee's Lane
MW - Groundwater Monitoring Well
PW - Private Well
AS - Air/gas Sample
TB - Trip Blank
FB - Field Blank
PB - Preservative Blank

Each location has a two-digit number (i.e., 01, 02, etc.) followed by a series number (the series number would identify the number of samples obtained from a particular location). For example, the first time monitor well MW-04 (Lee's Lane Landfill), is sampled, the number for the sample would be:

LL-MW-04-01.

The second time the well is sampled (i.e., second quarterly sampling), the sample number becomes:

LL-MW-04-02.

The private well sample follows a similar system with the replacement of "MW" with "PW".

The six ambient air sampling locations will follow a similar numbering system which began with air sampling station AS-01. The first time this station is sampled the sample number will be:

LL-AS-01-01

These sample designations correspond to the first sampling event. During future sampling events the last two numbers will change to correspond to the specific sampling event. An example would be, LL-AS-01-02, air sample collected northwest of the gas collection system during second quarter sampling event.

Similarly, the five air/gas samples collected from the gas monitor wells will be labeled "AS". However, this shall be followed by a "G" and the corresponding well number. For example, an air/gas sample from gas well no. 4 collected during the first quarter sampling event shall be LL-AS-G4-01.

For "blind" duplicates, a fictitious unique sample location shall be created. This sample location shall be designated a sample code similar to the other samples of the same medium and noted in the field logbook.

The chain of custody procedures set forth in the SOP (Appendix B) shall be followed.

TABLE 3.1-2

SAMPLE BOTTLE/CANISTER, PRESERVATION AND HOLDING TIME REQUIREMENTS
LEE'S LANE LANDFILL SITE
JEFFERSON COUNTY, KENTUCKY

Sampling Task	Total No. of Samples and Media	Analyses	Holding Time	Preservation Requirements	BOTTLE/CANISTER REQUIREMENTS Per Sample	Total
Groundwater Samples (Existing Monitoring Wells and Private Well	11-water	Ext org, pest, PCB	7 days	Cool 4 degrees celcius	1-gal. amber glass	9*
		volatile organics	14 days	4 drops HCl,	2 40 ml vials	10+
		metals	6 months	50% nitric acid, <2pH	1-liter polyethylene	9
		cyanide	14 days	NAOH >12 pH	1-litre polyethylene	9
Air Samples	12-air	Selected halogenated and aromatic hydrocarbons and methane	2 weeks	Cap securely each in air tight containers	1 canister per location	12**

*Includes one bottle for matrix spike provided to laboratory

+Includes 2 vials for trip blank

**Includes one canister for QA/QC duplicate sample

3.6 Sample Container Requirements, Preservation, and Holding Times

Sample container, preservation, and holding time requirements specified in the SOP (Appendix B) shall be followed. Table 3.1-2 lists the total number of each type of sample collected during each sampling event as well as the associated container, preservation, and holding time requirements. All samples requiring preservation shall be preserved as soon as possible after collection. All sample containers shall be pre-cleaned according to SOP (Appendix B).

3.7 Sample Scheduling, Packaging and Shipping

Samples shall be packaged and shipped in accordance with the procedures set forth in the Quality Assurance Manual dated April 1, 1986, and the SOP (Appendix B). Sample shipments shall be coordinated to remain within specific holding times.

Prior to packaging any samples for shipment, the sample container will be checked for proper identification and compared to the site logbook for accuracy. The samples will them be wrapped with cushioning material and placed in a plastic cooler. A sufficient amount of bagged ice will be placed in the cooler to keep the samples at 4 degrees Celsius until arrival at the laboratory.

All necessary documentation required to accompany the samples during shipment will be placed in a sealed plastic bag and taped to the underside of the cooler lid. The cooler will then be sealed with fiber tape, and custody seals will be placed so any opening of the cooler prior to arrival at the laboratory can be detected.

3.8 Documentation

A bound, weather-proof site logbook shall be maintained which includes all information related to sampling time, weather conditions, unusual events (i.e., well tampering, etc.), field measurements, etc., as well as a summary of the day's activities.

Sample identification tags, chain of custody forms, chain of custody seals, and equipment calibration records shall also be maintained. Field Technical Guidelines FT-13.02 through FT-13.03 (Appendix C) shall be followed.

3.9 Field Instrumentation

Each of the following devices shall be calibrated according to the manufacturer's operating manual prior to each day's use:

- Organic vapor analyzer
- Temperature probe
- Conductivity meter
- pH meter
- Photoionization detector
- Electronic water level meter
- Flame ionization detector

Calibration shall be documented in the field logbook. During calibration, an appropriate maintenance check shall be performed on each piece of equipment. If damaged or failed parts are identified during the daily maintenance check and it is determined that the damage could have an impact on the instrument's performance, the instrument shall be removed from service until the identified parts are repaired or replaced.

3.10 Decontamination Procedures

All sampling equipment is to be decontaminated using the procedures set forth in the SOP (Appendix B). If necessary, organic free water shall be taken to the site in glass containers for the decontamination process. The pesticide grade isopropanol will be applied directly from its original container.

All equipment shall be decontaminated on site. One decontamination (decon) station shall be set up within the study area. The station shall include a decon/drying surface covered with aluminum foil. The surface shall be constructed such that decon rinse solutions will remain on the surface thereby allowing for collection and evaporation.

The equipment shall first be scrubbed in a tub of non-phosphate laboratory detergent (such as alconox or liquinox)/tap water solution and rinsed with tap water in another tub. The piece of equipment shall then be placed on the decon surface and rinsed with deionized water and pesticide grade isopropanol as described in the SOP (Appendix B). Equipment shall be allowed to air dry and then wrapped in aluminum foil as described in the SOPs.

Waste isopropanol shall be captured separately in wash tubs and allowed to evaporate. Rinse water and detergent solution shall be discharged onsite onto the ground at designated locations.

3.11 Site Waste Management

All waste isopropanol used for decontamination shall be captured separately and allowed to evaporate, thus eliminating any potentially hazardous wastes. The Health and Safety Plan prepared pursuant to Section 3.1 shall address the handling and disposal of used protective clothing.

Noncontaminated protective clothing shall be gathered separately into plastic bags and disposed of as municipal solid waste. Contaminated clothing shall be containerized and properly disposed of in a permitted hazardous waste facility.

4.0 O&M FIELD OPERATIONS

4.1 Site Inspection

During each quarterly sampling event, the site shall be inspected including the following:

- Gas collection system
- Groundwater monitoring wells
- Gas monitoring wells
- Institutional controls
- Area wide site conditions (i.e., settlement, erosion, unauthorized dumping)

The gas collection system, groundwater monitoring wells, and gas monitoring wells shall be carefully observed for any changes in their general condition. These observations shall be noted on the Report of Field Observations (Appendix J). More detailed criteria for these inspections are provided in Sections 4.3 thru 4.5.

Institutional controls (gate and barricade) have been placed at the site entrance at the end of Lee's Lane to limit vehicular access to the site. Their general condition shall be observed on each site visit to ensure their structural integrity. This includes a check for any damage caused by any vehicle, vandalism, and/or deterioration. Appropriate repairs shall be made as soon as any such damage is discovered.

Area wide site conditions shall be examined and any changes, such as settlement and erosion, noted. Additionally, any trespassing or dumping shall be noted and reported to EPA and the Kentucky Department of Natural Resources and Environmental Protection Cabinet (KDNREPC). Signs designating gas well locations shall be maintained and replaced as needed.

4.2 Air Quality Monitoring

Air quality monitoring shall be conducted to detect the presence of combustible gas during sampling of each of the gas and groundwater monitoring wells, ambient air sampling activities and during inspection of the gas collection system blower house. Specific monitoring procedures are described below.

Air quality shall be monitored with a Photoionization Detector (PID/HNU) and/or Flame Ionization Detector (FID) organic vapor analyzer (OVA) and a Combustible Gas Indicator (CGI). Monitoring shall be conducted continuously in the half breathing zone during all sampling activities and inspection of the blower house. The half breathing zone is defined as the zone of air located at the midway point of the vertical distance between the sampler's head and the top of the monitoring well or the floor of the blower house.

All instrument readings shall be noted in the field log books. Specific operating instructions for each of these instruments may be found in their respective operator's manual.

If any consistent half breathing zone measurement of organic vapors is greater than or equal to 0.5 ppm above background, modified level D personal protection equipment (PPE) (see Appendix A) shall be used. Measurements of 5 ppm above background or greater in an enclosed area of the site shall require evacuation of the area.

Monitoring with a combustible gas indicator (CGI) should be performed to determine the potential for build up of a combustible environment within the immediate area. Readings equal to or greater than 10% of the lower explosive limit (LEL) shall require continuous monitoring; readings greater than 25% of the LEL shall require that operations stop and evacuation procedures as set forth in the Health and Safety Plan be initiated. EPA and the KDNREPC shall determine when on-site activities can resume.

Prior to entering into the blower house, conditions inside the building shall be monitored with a FID and/or PID and CGI. If conditions are found to be below the established action limits, the blower house door shall be secured open and intermittent monitoring shall be conducted during blower system inspection procedures. If conditions are found to be greater than the established action limits, the blower house shall be allowed to ventilate and conditions shall be monitored until the concentrations drop below the action limits. Continuous monitoring shall then be conducted during blower system inspection procedures.

4.2.A Ambient Air Sampling

Ambient air samples shall be collected during each quarterly sampling event to monitor the ambient air onsite downwind from the gas collection system and in adjacent areas of Riverside Gardens. Meteorological monitoring shall also be performed in conjunction with this activity. Specific procedures and sample locations are described below.

4.2.A.1 Meteorological Monitoring

Data concerning wind speed and direction, temperature and barometric pressure shall be collected and recorded in the field log for:

- verifying air sampling locations,
- calibrating instruments, and
- conducting analyses of ambient air samples.

Meteorological (MET) monitoring shall be conducted at Station 1 (Figure 4.2-1) and remain at that location throughout ambient air sampling. Placement of the meteorological system shall be in an open area, no less than 20 feet from any obstruction which could affect accurate meteorological data. The MET system shall be positioned with sensors approximately six to eight feet above ground.

4.2.A.2 Real Time Monitoring

A Combustible Gas Indicator (CGI) shall be used to monitor methane migration through the ground. The CGI shall be used at each sampling station. Readings shall be periodically recorded from the CGI prior to, during, and immediately following sample collection.

4.2.A.3 Number and Location of Ambient Air Samples

Ambient air/gas samples shall be collected from a total of six sampling locations. One sampling point shall be located upwind of

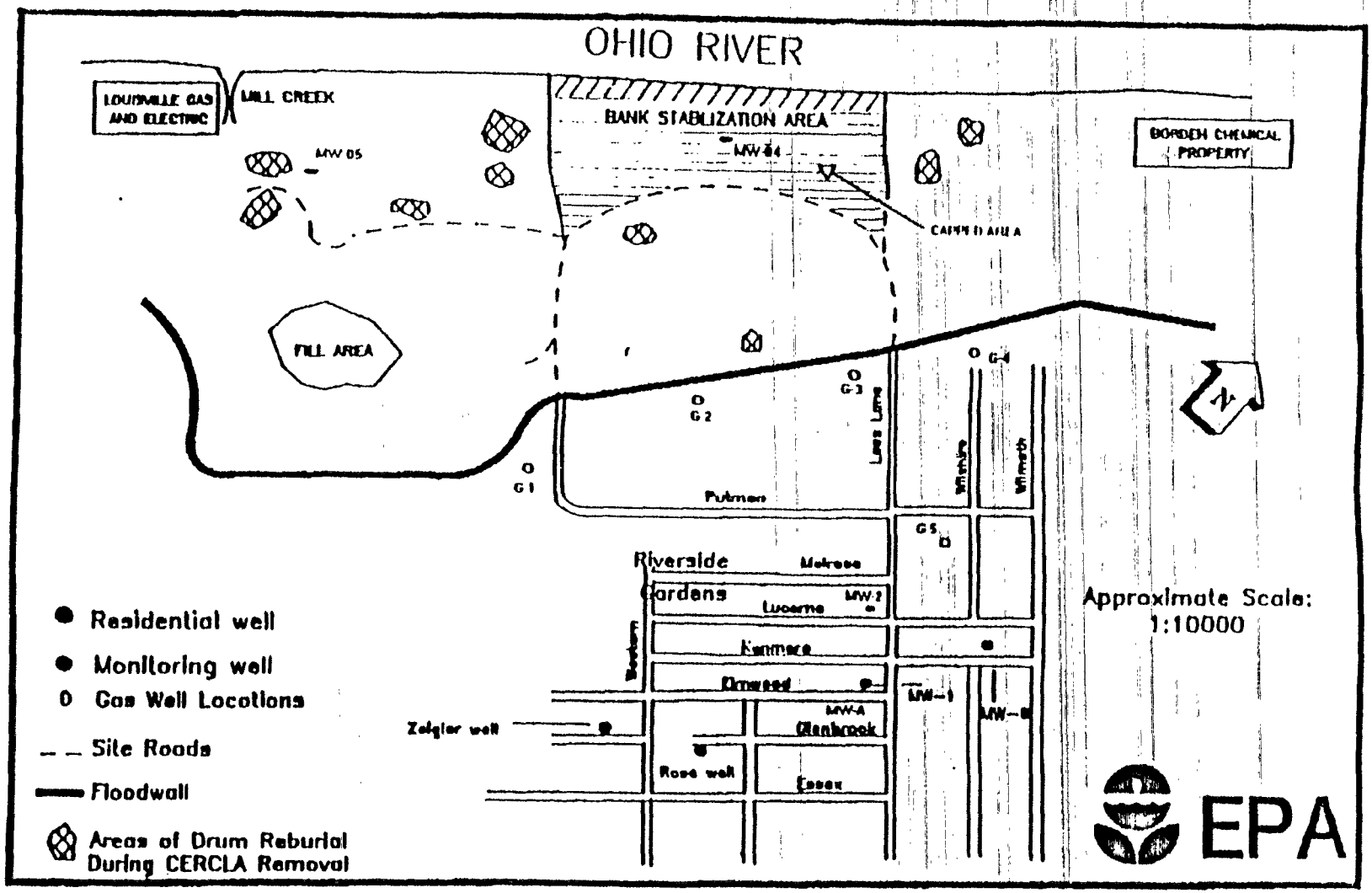
the existing gas collection system, two sampling points shall be located downwind of the gas collection system, and the remaining three sampling points shall be located adjacent to the site in the Riverside Garden residential area (see Figure 4.2-1). All canisters shall be accompanied by the air monitoring data form provided in Figure 4.2-2 or an equivalent form.

4.2.A.4 Ambient Air Sampling Procedures and Analysis

The samples shall be collected using the procedures described in EPA Method TO-14, from a height three to five feet above land surface using initially evacuated canisters and a pump-ventilated sample line. The sample shall be drawn through a sampling train comprised of components that regulate the rate and duration of sampling into a pre-evacuated passivated canister.

All ambient air samples shall be analyzed for benzene, toluene, methane, methylene chloride, xylene, and vinyl chloride.

The equipment required to collect ambient air samples is specified in Appendix D, Sections 7.1.1, 7.1.1.1-7.1.1.5, and 7.1.1.17. Time weighted average (TWA) samples shall be collected over a period of eight hours beginning at optimum times (daybreak) to allow for sample collection during adverse weather conditions. The samples shall be collected in accordance with Appendices D (Section 9.2 Sampling Procedure) and E.



WESTON SPER Region IV TAT

ACTIVITY DESCRIPTION: Map of site showing well locations

SITE: Lees Lane Landfill Well Sampling

TDD NO.: 04-8808-26

DATE: 26 August 1988

Figure 4.2-1

4.2.B Gas Monitoring Well Sampling

Air/gas samples shall be collected from selected gas monitoring wells to monitor the effectiveness of the gas collection system in intercepting soil gases potentially migrating from the fill area in the central tract towards Riverside Gardens. Specific sample collection procedures and sample locations are described below. All gas samples shall be analyzed for benzene, toluene, methane, methylene chloride, xylene, and vinyl chloride.

4.2.B.1 Number and Location of Gas Well Samples

A total of five air/gas samples shall be collected from five gas monitoring well pairs located adjacent to the floodwall and at the corner of Wilshire Avenue and Kenmore Boulevard (see Figure 4.2-1). Installation records for these wells are included in Appendix H.

4.2.B.2 Gas Well Sampling Procedures and Analysis

Each of the five well pairs shall be monitored with a photoionization detector (PID), a flame ionization detector (FID), and combustible gas indicator (CGI). The well from each well pair which gives the highest readings on the screening instruments shall be sampled. If neither well from each well pair gives positive readings, the shallow well shall be sampled.

The samples shall be collected from dedicated teflon tubing installed in each well using the procedures described in EPA Method TO-14 and summarized below (Appendix D). Initially evacuated canisters and a pump-ventilated sample line shall be used to extract the sample. The sample shall be drawn through a sampling train comprised of components listed in Appendix D, Sections 7.1.1, 7.1.1.1-7.1.1.3, 7.1.1.5, and 7.1.1.17.

AIR MONITORING DATA SHEET

SECTION I : SAMPLE IDENTIFICATION

Sample Canister no. _____ Site Name/Project _____
Sample ID no. _____ Sample Technician _____
Type of Sample : Grab or Continuous Date _____
Sample Parameters: _____
Sample Location and Description: _____

SECTION II : CALIBRATION OF FLOW CONTROLLER (if applicable)

Pump ID no. : _____ Initial Flow Rate : _____ ml/min
Flowmeter Type : _____ Final Flow Rate : _____ ml/min
Time of Calibration : _____ Supplemental Flow Rate : _____ ml/min

SECTION III : WEATHER CONDITIONS

Temperature :_____ F/C Wind Direction (from hdg): _____ Wind Speed: _____
Meteorological Station Used : Yes/No MET Chart Reference No.: _____
Weather Narrative: _____

SECTION IV : SAMPLE CONDITIONS

Height of Sample Inlet: _____ ft Total Sample/Run Time: _____ min
Start Time: _____ Total Sample Volume: _____ L
Stop Time: _____
Remarks: _____

EBASCO SERVICES INCORPORATED

AIR MONITORING DATA SHEET
LEE'S LANE LANDFILL SITE
JEFFERSON COUNTY, KENTUCKY

FIGURE 4.2-2

The sampling canisters shall be received, evacuated, and sealed at subatmospheric pressure. One canister shall be positioned at each well to be sampled, attached to the dedicated teflon sampling tube, and opened at the appropriate time to allow the gas/air inside the well to be sampled.

Sampling procedures require the use of one 6-liter canister for each sample. The gas well vent line is to be left open while a low flow air sampling pump is attached to the sample line and the line purged for 30 seconds to clear any "dead" air. The pump is then to be removed and the canister is attached and opened. The canister is then allowed to pressurize for 45 seconds, thus collecting a sample. The canister is then to be closed, detached from the sampling line, labeled/tagged, and packaged for shipment. An air monitoring data sheet shall accompany each canister.

The samples shall be analyzed in accordance with EPA Method TO-14 (Appendix D).

4.3 GAS-COLLECTION SYSTEM

A gas collection system was installed on the site in October 1980 adjacent to the floodwall between the fill and Riverside Gardens (see Figure 4.3-1). Soil gases migrating towards Riverside Gardens are intercepted by the gas collection system and released into the atmosphere. The Design Report for the gas collection system is included in Appendix F.

4.3.A Gas Collection System Maintenance

The individual components of the gas collection system shall be observed quarterly to assess their condition. These observations shall be noted on the Report of Field Observation included in Appendix J.

The area around each component shall be checked for any settlement, erosion or vandalism which may have occurred. Each well shall be checked to ensure that the cover is in place and rests properly in the concrete collar. The vegetation around each well shall be trimmed to a nominal six inches height within a six foot radius of the well head. The service box lids shall be lifted from each well and moisture trap and the interior cleaned by removing visible debris, grass and leaf clippings, and dirt, so that there is no visible dirt or grease buildup. Missing and/or broken service box lids from any part of the well system shall be replaced. Damaged components including caps, plugs, stopcock valves and piping shall be repaired or replaced.

The ball valve service boxes shall be cleaned so that the valve access nut is visible from the ground surface. Additionally, the well system and moisture trap identification signs shall be checked and repaired and/or replaced as necessary.

The blower house shall be inspected and cleaned, and minor maintenance activities performed quarterly, as set forth below:

- Upon inspecting the blower house, the blower system shall first be shut to "OFF". The blower should shut down. If the system does not shut down, this condition should be reported to the appropriate supervisory personnel for corrective action. The floor and other system components including valves and piping network shall then be thoroughly vacuumed and/or swept.

- The blower motor, blower, and other equipment shall be oiled and greased as per the equipment manufacturer's suggested maintenance instructions.

- The strainer in blower intake line shall be checked and cleaned as necessary.

- The blower system shall then be turned to "ON". If the blower does not run, this condition shall be reported to the appropriate supervisory personnel for corrective action.

- Once the blower is operating, the flange connections in the piping system shall be checked to determine if leaks are apparent. Flange bolts shall be tightened and/or gaskets replaced as necessary.

- Suction and discharge pressures from the gauges located on the north and south headers and exhaust pipes shall be recorded.

4.3.B Gas Collection System Balancing

The gas collection system shall be balanced on a semi-annual basis in accordance with the procedures set forth in Appendix G. Balancing shall include:

- A check of the system to verify that it is operating according to established design criteria. The air velocity, pressure, and flow rate at each extraction well shall be checked using the velocity meter and manometer purchased by the EPA, presently in the possession of Jefferson County; and

- Adjustments to the system.

A check of the system's ability to attract gas migrating from the site shall also be made prior to and following balancing operations by checking any overlap in each wells radius of influence. The basis of design for the gas collection system was predicated on each of the 31 wells pumping at a flow rate of 25 cfm and a pressure of -2.5 inches of water, thereby creating a negative pressure within a radius of 100 feet around each well (i.e., a radius of influence) (Appendix F). These radii or areas of negative pressure are designed to overlap to ensure that gas is drawn toward the various extraction wells. Based on the most current pressure and flow rate readings, the majority of the wells are pumping at or above the design criteria. This pumping rate should result in the desired overlap of each wells radius of influence.

The procedures to perform this check shall be conducted prior to balancing the system (to obtain "as is" information) and after balancing (to document the effectiveness of the balancing procedures) as follows:

- Begin the inspection at well No. 21 located immediately south of the blower house.

- Attach the stopcock valve, appropriate connectors, and manometer in order to read the individual pressures of the two adjacent wells (nos. 20 and 22). Instructions for use of the manometer are set forth in the October 7, 1987 IT letter included in Appendix G.

- Attach the pressure reading assembly to well No. 21. Attempt to adjust pressure of well No. 21 to 0.0 inches of water or to the lowest pressure possible using the long handled valve wrench. A zero pressure indicates no

overlap in radii of influence. If a zero pressure can not be obtained then an overlap of radii of influence is to be assumed.

- While maintaining the lowest pressure possible at well No. 21, read pressures of two adjacent wells (Nos. 20 and 22). A drop in pressure from the initial readings in these wells indicates an overlap in the radii of influence.

- Re-adjust the pressure in well No. 21 as near as possible to design pressure (-2.5 inches of water)

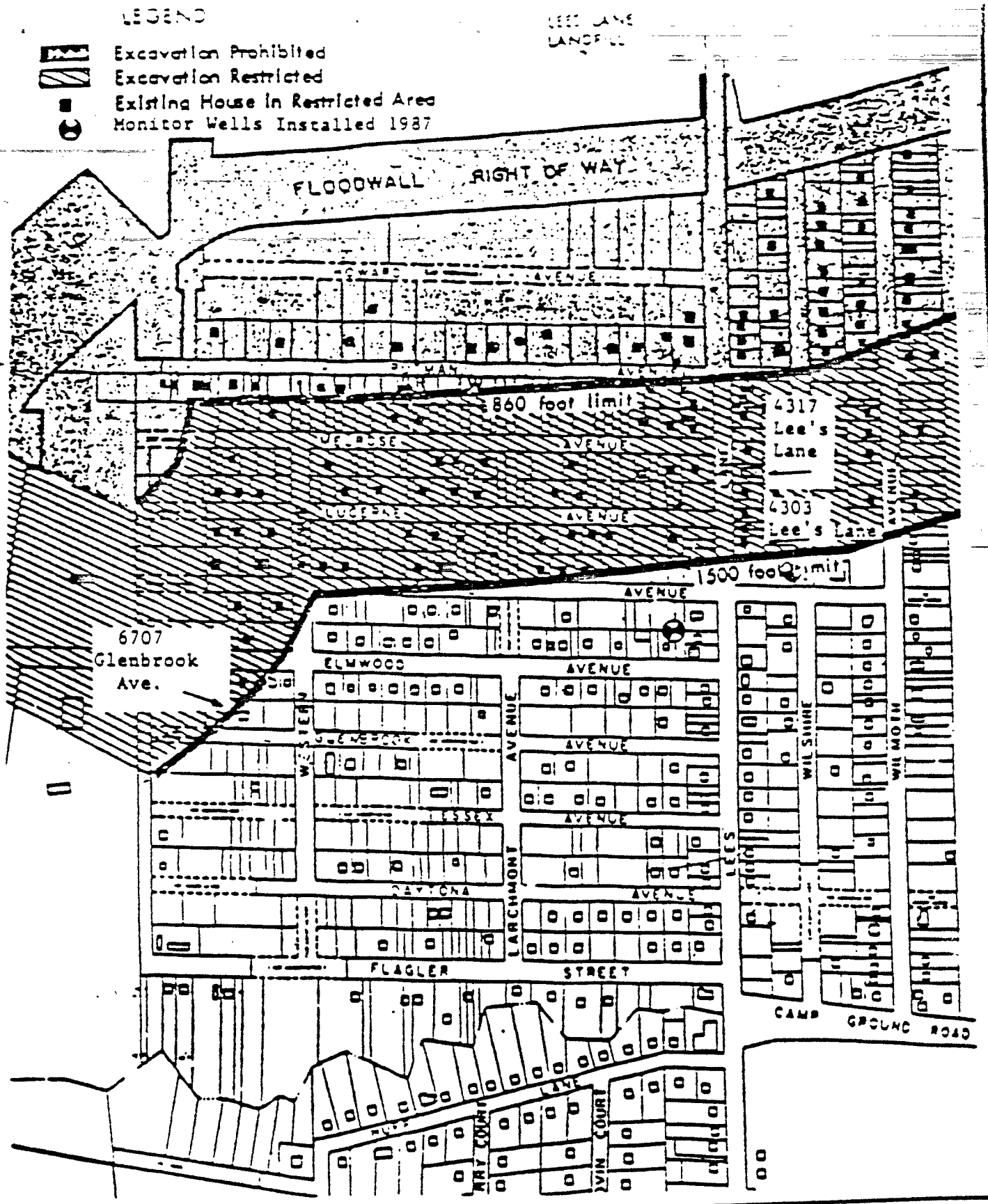
- Proceed to well No. 20 and check adjacent wells by following the steps listed above.

- Continue the procedure through well No. 1.

- Return to the blower house area and continue the procedure starting at well No. 22 (located immediately north of the blower house) and proceed to well No. 31.

In addition to these procedures, each well shall be checked for the presence of water and the total depth shall be measured to ensure that material (e.g. water, debris) has not entered the well. These observations shall be noted on the Report of Field Observation included in Appendix J.

The individual wells not operating at design criteria shall be noted and reported to EPA and the Kentucky Department of Natural Resources and Environmental Protection Cabinet (KDNREPC). These wells shall be carefully inspected following the radius of influence check procedures listed above and the results noted. These wells shall be repaired so that they meet design criteria.



EBASCO

EBASCO SERVICES INCORPORATED

1500 FOOT CHROMIUM CONTAMINATION ZONE
LEE'S LANE LANDFILL SITE
JEFFERSON COUNTY, KENTUCKY

FIGURE 4.4-1

An individual assessment of each of the wells operating below design standards shall be conducted prior to any repair. Well malfunctions may be caused by a rise of the water table which results in water entering the screened interval; cracked or broken pipes and seals from settlement or shifting of the surrounding earth; blockage of pipes and plumbing; or a reduced or inconsistent suction pressure and/or flow from the blower system. This assessment may include but is not limited to pressure tests isolating each well, removal of backfill material to visually inspect the pipes and plumbing, measurement of the water level (if any) and total depth, a caliper test for deep subsurface inspection, and an additional pressure check of the blower system.

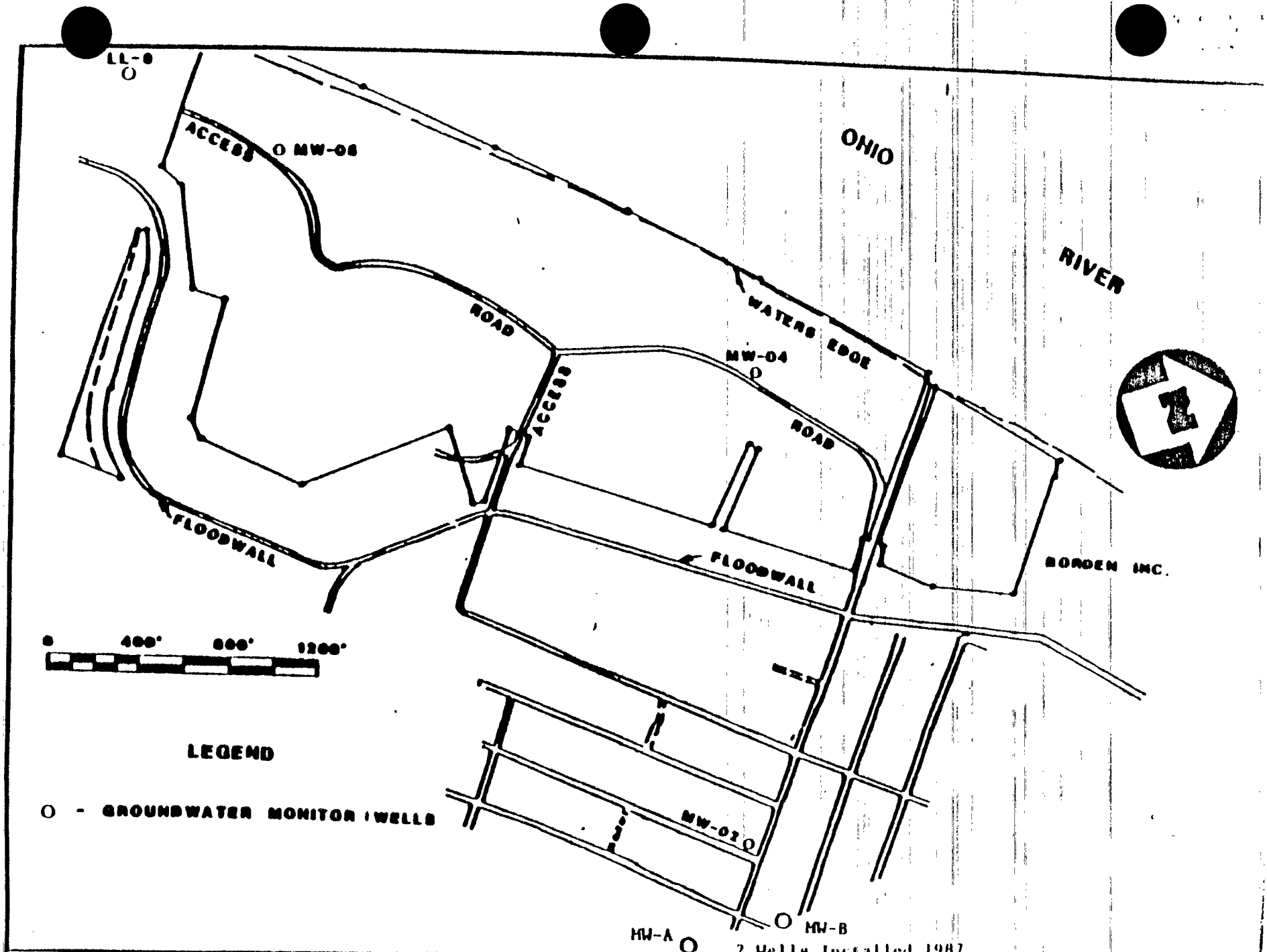
4.4 GROUNDWATER QUALITY MONITORING

4.4.A Number and Locations of Groundwater Samples

Groundwater samples shall be collected for chemical analysis from five existing monitoring wells (MW-A, MW-B, MW-02, MW-04, MW-05) and one private well (6707 Glenbrook Avenue) (Figures 4.4-1 and 4.4-2).

4.4.B Groundwater Sampling Frequency

The five monitoring wells and one private well indicated on Figures 4.4-1 and 4.4-2 are to be sampled on a quarterly basis for a period of three years. After the initial three year monitoring period, the monitoring program will be re-evaluated by EPA for the frequency of the sampling events. The frequency of groundwater sampling events for O&M purposes shall not exceed four events a year. However, additional sampling may be required to verify any unusual analytical results.



EBASCO SERVICES INCORPORATED

GROUNDWATER SAMPLE LOCATIONS
LEE'S LANE LANDFILL SITE
JEFFERSON COUNTY, KENTUCKY

FIGURE 4.4.2

4.4.C Groundwater Sampling Procedures and Analysis

All groundwater samples associated with this plan shall be analyzed by a qualified laboratory following CLP protocol for Target Compound List (TCL) analysis. The results of the sample analysis shall be reviewed by EPA to identify the specific compounds to be analyzed during future sampling events.

4.4.C.1 Monitoring Well Purging and Sample Collection

Wells shall be purged and sampled in accordance with the procedures outlined in Section 4.7.5 of the SOP (Appendix B). Water level in each well shall first be measured with a decontaminated tape or water level indicator and the total volume of the water column calculated. The volume of water in each monitoring well shall then be purged a minimum of three times or until the well has been be pumped dry. Conductivity, pH, and temperature shall be periodically measured and recorded during purging. Purging will be discontinued when stabilization of these parameters occurs. Each sample shall be collected from the groundwater monitoring wells with a Teflon or stainless steel bailer.

The private well located at 6707 Glenbrook Avenue shall be purged by connecting a hose to the existing indoor spigot and allowing the pump to run for a few minutes while checking the conductivity, pH and temperature. Field measurements shall be collected rapidly until stabilization occurs to ensure that enough water remains to fulfill sample volume requirements. The sample shall be collected directly from the spigot into the sample bottles.

4.4.C.2 Volatile Organic Compounds

Samples for determination of volatile organic compounds (VOCs) shall be removed first from each well after purging. Care shall be taken to minimize agitation/aeration of the samples at all stages of removal and containerization. Two replicate, samples (i.e., two 40 ml vials) shall be taken at each well with a Teflon bailer. Samples for VOCs shall be taken as soon as sufficient water volume is available in the well after appropriate purging, and then preserved as required in Table 3.1-2. All samples collected shall be placed in a cooler containing ice as soon as possible after samples are obtained as provided in the SOP (Appendix B).

4.4.C.3 Inorganics Analyses

Samples for determination of metals and cyanide shall be collected and preserved as provided in Section 4.5.6 in Appendix A of the SOP (Appendix B).

4.4.C.4 Extractable Organics Analyses

Samples for determination of organics shall be collected and preserved as provided in Section 4.5.6 and Appendix A of the ESD SOPs (Appendix B).

4.4.C.5 **Field Measurements**

A separate sample shall be collected for the field measurement of pH, specific conductance and temperature after the VOC samples are collected at each sample location. The sample removed from the well after VOC sampling shall be placed into a clean container. Temperature, pH, and specific conductance shall then be measured (temperature first). All measurements shall be made onsite immediately after the sample is removed from the well.

All probes shall be rinsed with distilled water and wiped clean with laboratory tissue after use at each well and decontaminated before removal from the site. The pH meter shall be calibrated prior to each day of sampling with two buffer solutions braketing the expected sample pH (Appendix B). Calibration and maintenance events will be recorded in a field logbook.

4.5 RIVER BANK PROTECTION CONTROLS

4.5.A Inspection

The river bank slope protection in the central tract adjacent to the Ohio River shall be inspected quarterly. To the extent practicable, these inspections shall coincide with the quarterly sampling events and be conducted during periods of peak and minimum river flow.

The purpose of these inspection activities is to identify the potential evidence of distress which may lead to slope failures. These observations shall be recorded on the Report of Field Observation included in Appendix J.

4.5.A.1 Rip-rap Slopes

The rip-rap slopes shall be inspected quarterly for signs of deterioration including the following:

- Subsidence
- Erosion
- Damp areas
- Wet ground vegetation
- Soft spots in surface
- Seepage, Water flow

- Sloughing, caving or surface erosion
- Undermining of rip-rap edge by river flow
- Vegetative growth on rip-rap slope
- Buildup of trash and debris on rip-rap
- Springs
- Piping
- Sand boils

If any of these signs occurs, EPA and the KDNREPC shall be notified immediately.

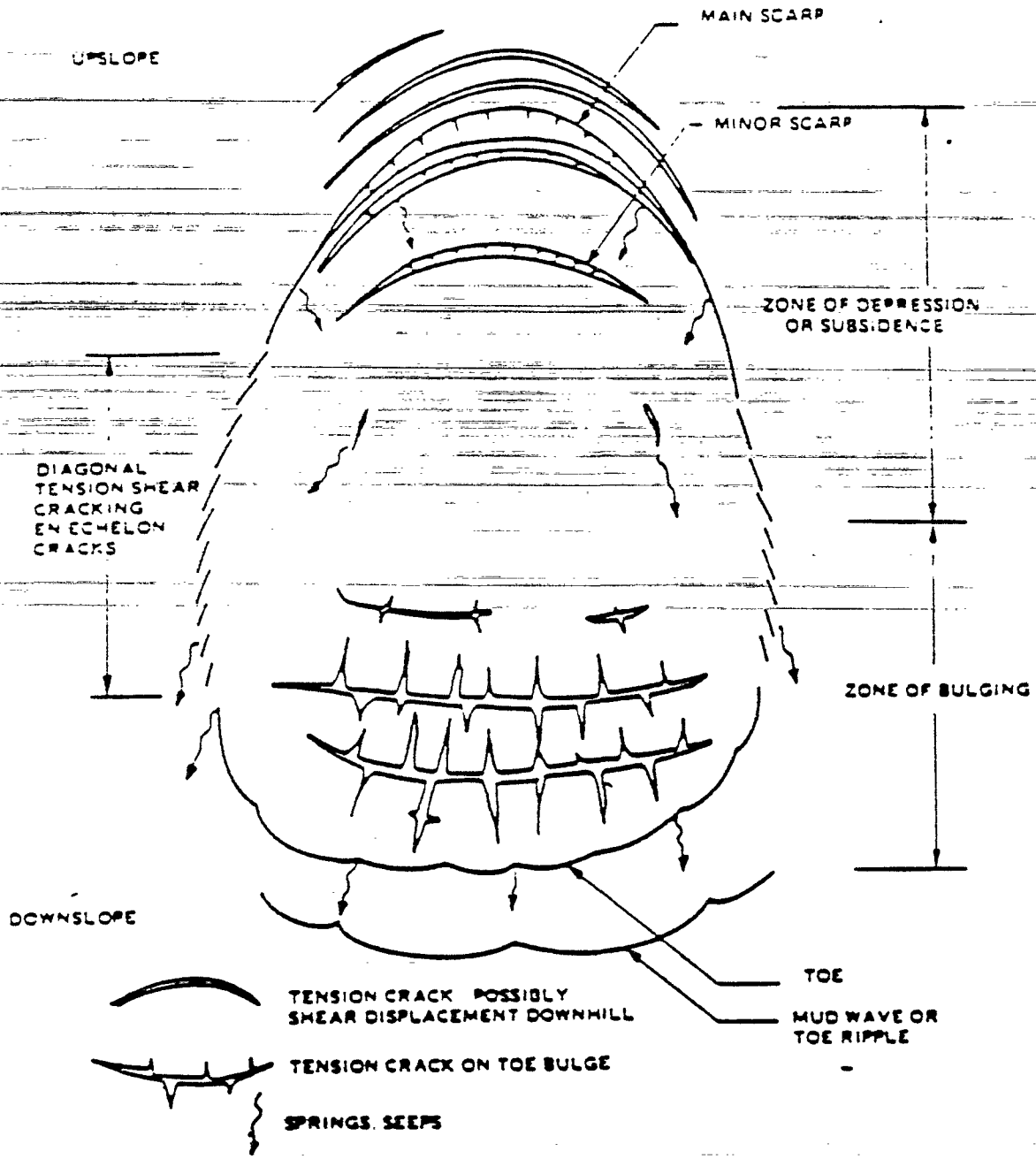
Possible appearances, locations and shapes of cracks and bulges along a typical slope are indicated on Figure 4.5-1. Reporting requirements, tolerance limits, and measurement requirements for above items are outlined in Table 4.A-1.

4.5.A.2 Natural Slopes

Examination of natural slopes shall be performed quarterly for signs of deterioration. The inspection should include but not be limited to monitoring of vegetation on the slopes. Developing cracks are often obscured by grass, tall leaves, and root mats. These cracks should be carefully uncovered by hand so their total extent can be estimated. Hidden cracks may be identified by tearing of shrubs and distortion of trees and tree root systems.

4.5.B Surveying

Surveying of the rip-rap slope and natural slope shall be conducted to monitor the extent and rate of any slope movement. Additional instrumentation may be required in the future and may include inclinometers, piezometers, extensometers, or strain gauges. Drainage pipes may also be required in order to relieve ponding on the surface.



EBASCO SERVICES INCORPORATED

TYPICAL SLOPE FAILURE DETAILS
LEE'S LANE LANDFILL SITE
JEFFERSON COUNTY, KENTUCKY

FIGURE 4.5-1

Table 4.A-1

MONITORING AND REPORT SCHEDULE
FOR RIVER SLOPE

Type of Report	Monitoring Frequency	Items to Be Observed/Monitored and Reported	Tolerance Limits	Inspector's Action
Visual Observation	Quarterly; with inspection to occur to the extent practicable during periods of peak and minimum flow in the Ohio River. If severe flooding occurs, additional inspection as deemed prudent by MSD in its professional judgment.	Subsidence	3"	Measure and report on descriptive report. Photograph location if possible.
		Erosion	-	Map location and nature.
		Damp Areas	-	Map location and nature
		Wet Ground Vegetation	-	Map location and nature
		Soft Spots in Surface	-	Map location, nature, and approximate size.
		Seepage, Water Flow	-	Map location and approximate amount of water seeping.

Type of Report	Monitoring Frequency	Items to Be Observed/Monitored and Reported	Tolerance Limits	Inspector's Action
		Sloughing, Caving, or Surface Erosion	3"	Notify designated authority, document on descriptive report. Photograph if possible.
		Cracking	1"	All cracks observed to be documented. Describe location and measure approximate width of crack. Photograph if possible
		Bulging (to the extent practicable)	1"	Describe location and approximate size. Photograph if possible.
		Seeps, soils, Sand Cones, Sand/ Silt Trails, Minifans	-	Describe location, type.
		Vegetation	-	Report any change in leaf patterns on existing vegetation, tearing of shrubs, or any observed distortion of trees or roots with respect to previous observation.

Type of Report	Monitoring Frequency	Items to Be Observed/Monitored and Reported	Tolerance Limits	Inspector's Action
		Undermining of riprap edge by river flow	-	Notify designated authority, document on descriptive report and photograph if possible.
Surveying	Annually	Movements in Horizontal and Vertical Directions	±1" Horiz. Movement ±3" Vert. Movement	Prepare comprehensive survey report with field observation and calculation. All readings shall be taken by a surveyor licensed in the State of Kentucky.

- Indicates no tolerance allowed.

Optical instrument survey and tape measurements shall be used to determine lateral and vertical movements of the river slope. Benchmark monument and transit stations are located on stable ground near the access road (see Appendix K). Using these monuments as baseline, subsequent movements can be determined by surveying. Transit lines shall be established by the surveyor, so that the vertical and horizontal displacements at the center and toe of the slope can be observed. The traverses or grid system across the slope area shall consist of lines perpendicular to the plane of the slope. The line spacing shall be 200 feet apart with reference points at intervals of 50 feet on each line. This spacing shall be maintained and referenced to the control benchmarks. Lateral motions shall be detected by transit and tape measurement from each hub. In the event a tension crack has opened up above the top of the slope, periodic measurement across the crack shall be made between two hubs established on each side of the crack to identify any further widening.

Because the survey monuments have been set in fill material above the existing landfill, the potential exists that settlement of the monuments will occur over time. If survey measurements indicate settlements which exceed tolerance limits, an immediate site inspection should be made to determine whether slope movement is occurring or whether the movement is due to settlement of the monuments. This surveillance should include visual inspection of the embankment.

4.5.C Rip-rap Slope Maintenance

The rip-rap slopes shall be sprayed annually for vegetation control to preclude the possibility of vegetative growth preventing a thorough inspection of the slope. The spray shall consist of "Hyvar Excel" or "Round Up" applied at a rate of 4 gals/acre or 2 qts/acre, respectively; or equal. The spray shall be applied so as to maintain a narrow vegetative buffer, which may consist of woody plants, along the river's edge. The width of the vegetative buffer shall be determined by MSD based upon its reasonable judgment.

If the visual inspections or surveys discover distress signs, a preventive maintenance program shall be developed and submitted to EPA for approval. The maintenance program shall be implemented upon approval by EPA. This maintenance program may include compaction of the affected area and replacing portions of the rip-rap.

4.6 LANDFILL, SURFACE AND CAP MONITORING AND MAINTENANCE

This section covers the O&M responsibilities for the clay cap placed during surface waste cleanup activities.

The clay covers placed over the "hot spot" areas and other site areas where surface trash was buried/covered designated in Appendix K shall be inspected quarterly for evidence of erosion. The observations shall be reported on the Report of Field Observation included in Appendix J.

Inspections shall be made by walking the entire area of the cap and looking for signs of erosion including the following: swales greater than 1 foot wide and 2 inches deep; cracks greater than 1 inch wide and 6 inches deep; inadequate growth of the grass cover (no bare areas greater than 36 sq. ft.); and ponded water larger than 2 feet in diameter by 3 inches deep.

Upon detection of the foregoing, the cover shall be repaired by regrading, clay replacement and compaction, and reseeding. Re-establishment of vegetative cover by reseeding or otherwise, if required, may be deferred to the appropriate seasonal time (spring and fall).

The grass covering the clay caps in the "hot spots" and the capped area in the central tract between the Ohio River and the access road shall be mowed at least monthly from May through September. From October through April, these areas shall be mowed on an as needed basis, as specified below.

Excessive grass height may reduce runoff away from the cover, may visually obstruct observation of the cover, or may damage the integrity of the cap.

Mowing in the "hot spot" areas should be frequent enough to prevent growth of woody plants and other vegetation which grows to a height of more than 2 to 3 feet. The grass cover on the capped area between the river and the access road shall be mowed when grass height reaches 8 inches. Mowing shall be performed using a Bush Hog type grooming mower. The grass shall be mowed to a height not less than 4 inches. Advice may be obtained from the Kentucky Soil Conservation Service (SCS) [Louisville, KY, Phone No. (502) 425-4482].

Table 4.A-3 summarizes the Operation and Maintenance activities and lists the frequency with which they are to be conducted.

4.7 O&M REPORTING REQUIREMENTS

A Report shall be submitted to EPA and the KDNREPC at the completion of each quarterly sampling event. The Report shall summmarize the results for each O&M activity; identify any problems; and discuss any proposed action. A checklist to be used in reporting is attached in Appendix L.

TABLE 4.A-3

Maintenance Task, Frequency, Observations, and Actions
Lees Lane Landfill Site
Louisville, Kentucky

TASK	FREQUENCY	MAINTENANCE OBSERVATIONS	MAINTENANCE ACTION
Property Inspection (see Section 4.1)			
-Gas Collection system	Quarterly	See Below	See Below
-Groundwater monitor wells	Quarterly	See Below	See Below
-Gas monitor wells	Quarterly	See Below	See Below
-Institutional controls	Quarterly	Vehicular Damage, Vandalism, deterioration	Repair as appropriate
-Area wide site conditions	Quarterly	Exposed drums or waste	Report to appropriate agencies
		Major settlement (greater than 6" over 20 ft. span)	
		Evidence of leachate seepage, distressed vegetation	Report to appropriate agencies, photograph

TASK	FREQUENCY	MAINTENANCE OBSERVATIONS	MAINTENANCE ACTION
		Potholes, erosion of access road	Regrade/Repair
Air Quality Monitoring (see Section 4.2)			
-Ambient Air Screening	Quarterly	Organic vapors (≥0.5 ppm above background)	Initiate modified level D PPE.
		(>5 ppm above background)	Stop operation, evacuate site
		Combustible gases (>10% LEL)	Initiate continuous monitoring
		(>25% LEL)	Stop operation, evacuate site
			(Readings must return to safe level before activities resume)
-Ambient air sampling	Quarterly	High Concentrations of gases	Evaluate data, report to appropriate agencies
-Meteorological Monitoring	Quarterly	Shift in prevailing wind	Adjust ambient air sampling location

TASK	FREQUENCY	MAINTENANCE OBSERVATIONS	MAINTENANCE ACTION
-Real time monitoring	Quarterly	High concentrations of gases	Evaluate data, report to appropriate agencies.
-Gas monitor well	Quarterly	Wells unlocked	Replace lock, secure well
		Guard posts/ rails damaged or missing	Repair/replace posts or rails
		Protective casing damaged, missing or rusted	Repair/replace/ sand and paint protective casing
		Concrete pads damaged or cracked	Repair damage
		Possible surface water infiltration	Slope pad away from well
		Vegetation/ debris covering well	Cut vegetation, clear debris
		Well cap damaged or missing	Repair/replace cap

TASK	FREQUENCY	MAINTENANCE OBSERVATIONS	MAINTENANCE ACTION
		Tubing, fittings and valves damaged or missing	Repair/replace as necessary
Gas Collection System Balancing and Maintenance (see Section 4.3)			
-System maintenance	Quarterly	Vandalism to blower house wells or moisture traps	Repair damage
		Structural damage to blower house	Repair damage
		Blower not operating or visible damage	Monitor gas wells, repair system/ damage
		Service box lids damaged or missing	Repair/replace lids
		Alarm and blower controls not functioning	Repair controls
		Excessive settlement or tilting of concrete well collars	Return collars to grade/vertical as needed

TASK	FREQUENCY	MAINTENANCE OBSERVATIONS	MAINTENANCE ACTION
		Well/moisture trap covers damaged or missing	Repair/replace covers
		Vegetation covering wells/moisture traps	Cut vegetation, clear well/moisture trap
		Adjustment valve inaccessible	Clear mud/debris obscuring valve
		Caps, plugs, or piping damaged or missing	Repair/replace cap, plug, or piping
		Identification signs damaged or missing	Repair/replace sign
-System balancing	Semi-annual	High/low pressure	Adjust valve, isolate well and check pressure, repair as necessary
		High/low velocity	Assess condition, check blower, repair as necessary
		Water in well	Remove water, monitor for recharge

TASK	FREQUENCY	MAINTENANCE OBSERVATIONS	MAINTENANCE ACTION
		Decrease in total depth	Assess condition, repair if possible
		Damaged piping/plumbing	Repair as necessary
Groundwater Quality Monitoring (see Section 4.4)			
	Quarterly	Wells unlocked	Replace lock, secure well
		Guard posts/ rails damaged or missing	Repair/replace posts or rails
		Protective casing damaged, missing or rusted	Repair/replace/sand and paint protective casing
		Concrete pads damaged or cracked	Repair damage
		Possible surface water infiltration	Slope pad away well
		Vegetation/ debris covering well	Cut vegetation, clear debris
		Well cap damaged or missing	Repair/replace cap

TASK	FREQUENCY	MAINTENANCE OBSERVATIONS	MAINTENANCE ACTION
		High concentrations of contaminants	Evaluate data, report to appropriate agencies
Bank Protection Controls (see Section 4.5)			
-Rip-rap slope and drainage swales	quarterly (during peak and minimum river flow)	Subsidence of slope, sloughing or or caving (tolerance limit 3")	Measure, photograph assess, and repair if necessary
		Erosion of rip-rap or underlying material	Measure, photograph assess and repair if necessary
		Damp areas	Photograph, assess and repair if necessary
		Seepage, water flow, piping or sand boils	Photograph, assess and repair if necessary
	Quarterly	Vegetative growth on slope	Remove vegetation by hand or spraying with herbicide

TASK	FREQUENCY	MAINTENANCE OBSERVATIONS	MAINTENANCE ACTION
		Trash and debris on on slope	Remove trash and debris as necessary
		Exposed trash or filter fabric	Photograph, assess and repair as necessary
		Tension cracks or bulging (to the extent practicable) [tolerance limit 1"]	Measure, photograph assess and repair as necessary
		Survey monuments damaged or missing	Repair/replace monument
-Natural slopes	Quarterly (during periods of peak and minimum river flow)	Same as rip-rap slope observations plus:	
		Vegetative growth on slope	Do not remove vegetation, uncover and observe cracks
		Soft spots in surface	Assess and repair as necessary

TASK	FREQUENCY	MAINTENANCE OBSERVATIONS	MAINTENANCE ACTION
		Tilting trees	Photograph, assess and repair as necessary
-Surveying	Annually	Movement of slopes (Tolerance limit: ± 1" Horizontal, ± 3" Vertical)	Assess and adjust survey frequency as directed by EPA or KDNREPC; repair as necessary
Clay Covers			
-Visual observations	Quarterly	Swales (greater than 1 foot wide and 2 inches deep)	Measure, photograph assess and repair as necessary
		Cracks (greater than 1 inch wide and 6 inches deep)	Measure, photograph assess and repair as necessary
		Inadequate grass cover (area greater than 36ft^2)	Measure, photograph assess and repair as necessary

TASK	FREQUENCY	MAINTENANCE OBSERVATIONS	MAINTENANCE ACTION
		Ponded water (area larger than 2 ft. dia. X 3 in. deep)	Measure, photograph assess and repair as necessary
		Erosion or ponded water (greater than 12 in. deep requires immediate repair)	Measure, photograph and repair immediately
-Mowing	Periodically	Grass height reaches 8"	Mow

ATTACHMENT II

CERTIFICATES OF INSURANCE